

ABSTRACT

USING LASER TO MARK PRINTED CIRCUIT BOARDS (PCBs)

The process of using CO₂ laser to mark alphanumeric fonts, barcodes and data matrix on PCBs is a fast and precise method to attach information on PCBs without causing delamination to the boards. (Figure 1). By using a 5 kHz pulse CO₂ 25 watt laser with a beam delivery of a very small spot size created by scanning mirrors and a flat field lens and controlled by a computer (Figure 3), the laser markings on the PCB are confined to the layers to be marked without causing damage to the boards (Figures 4, 5 and 6). The small spot size allows marking of dense barcodes at any angle and area. The data for marking is generated by a computer at the instance of marking. The entire operation is automatic. The markings are permanent and tamper-proof.